

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: Price et al.
Title: X-RAY SOURCE AND SYSTEM HAVING CATHODE WITH
CURVED EMISSION SURFACE
Serial No:
Art Unit
Filing Date:
Examiner:
Date: January 14, 2004

INFORMATION DISCLOSURE STATEMENT

Mail Stop PATENT APPLICATION
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

The following are submitted in the above application in compliance with 37 CFR 1.97 and 37 CFR 1.98.

- [X] 1. A list of documents on Form PTO-1449 or Substitute together with copies of each identified non-patent literature document and a translation thereof or a concise explanation of each non-English language document or a Search Report or communication from a non-US patent office or an International Search Report from an International Searching Authority for a patent application filed via the Patent Cooperation Treaty or document(s) cited in the application or the priority application.
- This paper is submitted in accordance with:
- [X] 2. 37 CFR 1.97(b): [within three months of national, non-CPA filing, prior to first Office Action, on the merits, or prior to first office action after filing an RCE]
- [] 3. 37 CFR 1.97(c): [before Final Office Action, Allowance, or other action closing prosecution, whichever is earlier]; and
- [] a. The required Certification made in item 5 below; or
- [] b. The \$180.00 fee specified in 37 CFR 1.17(p) for submission of this Information Disclosure Statement is authorized in item 6 below.

CERTIFICATE OF MAILING

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 as Express Mail No. EL 979077839 US on January 13, 2004 and is addressed to Mail Stop PATENT APPLICATION, Commissioner for Patents, Alexandria, VA 22313-1450.

By: Carolyn Simpson Date: January 14, 2004
Name: Carolyn Simpson

4. 37 CFR 1.97(d): [on or before issue fee payment]; and

- a) The required Certification is stated in item 5 below and
- b) The \$180.00 fee specified in 37 C.F.R. 1.17(p) for submission of this Information Disclosure Statement is authorized in item 6 below.

5. Certification

- [] a. Each item of information contained in this Statement was first cited in any communication from a foreign patent office in a counterpart foreign patent application not more than three months prior to the filing of this Statement; or
- [] b. No item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application and, to the knowledge of the person signing this document after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR 1.56(c) more than three (3) months prior to the filing date of this Statement.

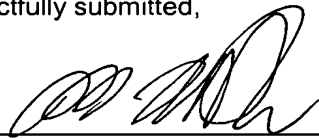
6. Payment of all applicable fees:

- ☐ Please charge all applicable fees associated with the submittal of this Information Disclosure Statement to Deposit Account No. _____.
- ☐ Enclosed is a check in the amount of \$_____ in payment of all applicable fees associated with the submittal of this Information Disclosure Statement

This document is submitted in duplicate.

Respectfully submitted,

Date 1/14/04

By 

FOLEY & LARDNER
Customer Number: 33679
Telephone: (414) 297-5839
Facsimile: (414) 297-4900

Marcus A. Burch
Attorney
Registration No. 52,673

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: January 14, 2004 <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	
				Filing Date	
				First Named Inventor	
				Group Art Unit	
				Examiner Name	
Sheet 1 of 2				Attorney Docket Number 070191-0362 (112019)	

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	A1	6,333,968	B1	Whitlock et al.	12/25/2001	
	A2	6,297,592	B1	Goren et al.	10/02/2001	
	A3	5,844,216		Fathi et al.	12/01/1998	
	A4	4,289,969		Cooperstein et al.	09/15/1981	
	A5	4,012,656		Norman et al.	03/15/1977	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	A6	"Soft lithography used to fabricate transistors on curved substrates"; 3-pg. document; [obtained from Internet www.news.uiuc.edu/scitips/00/11softlitho.html]; [printed on 10/26/01].	
	A7	"Soft Lithography"; 5-pg. document; published January 1998; WTECHyper-Librarian.	
	A8	"The future of electronics manufacturing is revealed in the fine print"; Ralph G. Nuzzo; PNAS; Vol. 98, No. 9, pp. 4827-4829 (April 24, 2001).	
	A9	"Low-Temperature Fabrication of Si Thin-Film Transistor Microstructures by Soft Lithographic Patterning on Curved and Planar Substrates"; Erhardt et al.; Chemistry of Materials, Vol. 12, No. 11, pp. 3306-3315 (11/2000).	
	A10	"Nucleation and growth of carbon nanotubes by microwave plasma chemical vapor deposition"; Bower et al.; Applied Physics Letters, Vol. 77, No. 17, pp. 2767-2769 (10/23/00).	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, PO Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: January 14, 2004 <i>(use as many sheets as necessary)</i>		Application Number	
		Filing Date	
		First Named Inventor	J. Scott Price
		Group Art Unit	
		Examiner Name	
Sheet	2	of	2
		Attorney Docket Number	070191-0362 (112019)

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	A11	"Large current density from carbon nanotube field emitters"; Zhu et al.; Applied Physics Letters, Vol. 75, No. 6, pp. 873-875 (8/9/99).	
	A12	"Application of carbon nanotubes as electrodes in gas discharge tubes"; Rosen et al.; Applied Physics Letters, Vol. 76, No. 13, pp. 1668-1670 (3/27/00).	
	A13	"Work functions and valence band states of pristine and Cs-intercalated single-walled carbon nanotube bundles"; Applied Physics Letters, Vol. 76, No. 26, pp. 4007-4009 (6/26/00).	
	A14	"Fabrication and Field Emission Properties of Carbon Nanotube Cathodes"; Bower et al.; 6-pg. document; Proceeding of 1999 MRS Fall Meeting.	
	A15	"10 Applications of Carbon Nanotubes"; Ajayan et al.; pp. 274-315.	
	A16	"Patterned negative electron affinity photocathodes for maskless electron beam lithography"; Schneider et al.; J. Vac. Sci. Technol.; pp. 3192-3196 (Nov/Dec 1998).	
	A17	"Semiconductor on glass photocathodes for high throughput maskless electron beam lithography"; Baum et al.; J. Vac. Sci. Technol.; pp. 2707-2712 (Nov/Dec 1998).	
	A18	"Physical properties of thin-film field emission cathodes with molybdenum cones"; Spindt et al.; Journal of Applied Physics, Vol. 47, No. 12, pp. 5248-5263 (December 1976).	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, PO Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450.